

REMARKS

A. Status of the Claims

Claims 1-7 were pending at the issuance of the instant Office Action. Claims 1-7 are rejected in the instant Office Action. No claims are amended, added, or canceled herein. Applicants thank the Examiner for the previous consideration of our submissions.

B. Rejections under 35 U.S.C. § 103(a)

Claims 1-7 stand rejected under 35 U.S.C. 103 as being obvious over Malfroy-Camine *et al.* (6,064,188) in view of LaHaye *et al.* (5,075,116), Crapo *et al.* (5,994,339), Campbell *et al.* (6,177,419), and Winkler *et al.* (Molecular Vision 1999).

The Action asserts that LaHaye *et al.* teach the use of free radical scavengers and antioxidants for the treatment of macular degeneration, citing column 4, lines 34-40 (Office Action, page 3).

The Action asserts that Winkler *et al.* teach the role of oxidation in relation to macular degeneration and the effect of superoxide dismutase in preventing oxidative damage.

The Action asserts that “Campbell *et al.* teach the use of the claimed compounds in a pharmaceutical formulation as mimetic of superoxide dismutase, which can be used by any appropriate route of administration such as injection” (citing column 2, lines 22-46).

The Action asserts that “Crapo *et al.* teach the compounds of similar structure with porphyrin ring, which are SOD mimetic, can be used for the treatment of disorders such as glaucoma and macular degeneration.”

The Action contends that combining these references would have been obvious to one of skill in the art, because they “relate to the use of compounds with superoxide dismutase activities for the treatment of macular degeneration.” Applicants respectfully traverse.

As extensively discussed in Applicants’ responses to previous Office Actions, none of LaHaye *et al.*, Winkler *et al.*, and Campbell *et al.* relates to superoxide dismutase compounds. In particular, the teaching of LaHaye *et al.* relates to the use of small vitamin antioxidants, an amino acid (L-cysteine), and cofactors (such as zinc, copper, selenium, and manganese) for

metalloenzymes, and to combination therapy that does not include superoxide dismutase mimics. Winkler *et al.* merely mention “the ***potential*** role of oxidation in relation to age-related macular degeneration” (see Abstract of Winkler, emphasis added). The Action cites *In Re Lambert and Knort* to support the assertion that “the mere suggestion that there is a correlation between oxidation and macular degeneration and the effect of superoxide dismutase in preventing oxidative damage make Winkler a valid reference for obviousness rejection” (Office Action, page 4). However, as pointed out in Applicants’ Response filed November 7, 2008, Winkler *et al.* also teach that “it remains unclear whether oxidation is a causative factor in the progression of AMD” (see second column, second page of Winkler). Therefore, Winkler *et al.* suggest that was uncertainty with respect to oxidation and AMD. Taken as a whole, as discussed extensively in Applicants’ responses to previous Office Actions, the teaching of Winkler *et al.* and the teaching in the art would not have motivated one of skill in the art to contemplate using the compounds in the instant claims to treat AMD, diabetic retinopathy, or retinal edema. Campbell *et al.* has nothing to do with the compounds of the instant claims. The Action states that “Campbell is cited to show that injection is a routine route of ophthalmic administration” (Office Action, pages 4-5). Thus, it appears that the Action concedes that Campbell *et al.* do not provide any teaching that relates to the use of compounds with superoxide dismutase activities for the treatment of macular degeneration.

Applicants submit that the collective teachings of LaHaye *et al.*, Winkler *et al.*, and Campbell *et al.* are insufficient to support an obviousness rejection. Nevertheless, the Action maintains that Crapo *et al.* provides the necessary disclosure. Applicants have explained that one of skill in the art would not have relied on Crapo as teaching that superoxide dismutase mimics could be used to treat AMD, diabetic retinopathy, or retinal edema, since the Crapo compounds and the compounds of the instant claims are different, and since Crapo *et al.* suggest that the particular mimetics of the invention can be used *to protect against the damage caused by* macular degeneration, as opposed to actually treating macular degeneration (column 16, line 58-60, emphasis added).

Since the Crapo compounds and those of the instant claims are different, structurally and mechanistically, the sufficiency of the asserted combination of references appears to rely on the contention that the cited “references teach the general concept that macular degeneration and oxidation and the use of compounds with super dismutase activity in preventing oxidative

damage” (Office Action, page 5). However, Applicants submit that no such general teaching is found in these references. In particular, Winkler *et al.* explicitly admit that “it remains unclear whether oxidation is a causative factor in the progression of AMD” (see second column, second page of Winkler). Therefore, the asserted combination is insufficient to support an obviousness rejection.

MPEP §2143.03 requires that all claim limitations be considered in an obviousness determination, and the Board of Patent Appeal and Interferences (BPAI) recently confirmed that “obviousness requires a suggestion of all limitations in a claim.” See *In re Wada and Murphy*, Appeal 2007-3733, citing *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Circ. 2003) (citing *In re Royka*, 490 F.2d 981, 985 (CCPA 1974)). The asserted combination of references does not suggest the use of the compounds of the claims to treat AMD, diabetic retinopathy, or retinal edema.

In light of the foregoing arguments, Applicants submit that the claims are not obvious in view of the aforementioned combination of references. Consequently, Applicants respectfully request that the obviousness rejection be withdrawn.

Conclusion

This is submitted to be a complete response to the outstanding Action. The Examiner is invited to contact the undersigned attorney at (817) 615-5330 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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